PATENT APPLICATION
Docket No: 14321.73

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:		)
	Masashiro Yanagisawa et al.	)
Serial No.:	10/534,434	)
Filing Date:	May 10, 2005	) Art Unit 2874
Confirmation No.:	4495	)
For:	WAVELENGTH MULTIPLEXER/DEMULTIPLEXER	)
Examiner:	Michael J. Stahl	)

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT
UNDER 37 C.F.R. § 1.97

Commissioner for Patents
PO Box 1450
Alexandria, Virginia 22313-1450

Sir:

Please find, pursuant to 37 C.F.R. § 1.98(a)(1), the enclosed Form PTO-1449 which contains a list of all patents, publications, or other items that have come to the attention of one or more of the individuals designated in 37 C.F.R. § 1.56(c). While no representation is made that these references may be "prior art" within the meaning of that term under 35 U.S.C. §§ 102 or 103, the enclosed listed references are disclosed so as to fully comply with the duty of disclosure set forth in 37 C.F.R. § 1.56.

Moreover, while no representation is made that a specific search of office files or patent office records has been conducted or that no better art exists, the undersigned attorney of record believes that the enclosed art is the closest to the claimed invention (taken in its entirety) of which the undersigned is presently aware, and no art which is closer to the claimed invention (taken in its entirety) has been knowingly withheld.

In accordance with 37 C.F.R. §§ 1.97 and 1.98, a copy of each of the listed references or relevant portion thereof that is not a US patent document is also enclosed.

Statement of Relevance of References Listed
Unaccompanied by English Translation
Under 37 CFR § 1.98(a)(3)

In accordance with 37 CFR § 1.98(a)(3), the following concise explanation of the relevance of each listed reference that is not in the English language and unaccompanied by a translation into English is provided.

Japanese Publication No. 04-056818: PURPOSE: To reduce a branch loss and to obtain parts to be used for optical branching and coupling without especially determining an I/O direction by setting up a light control member to be arranged on a branch part on an optimum position. CONSTITUTION: A light control layer 14 is formed on the light control member 13 to be moved in a groove 16 formed on an intersecting pat between both optical guides 9, 10. The groove 16 is formed in a direction inclined from a direction vertical to a center bisector between the optical axes of both the optical waveguides 9, 11 i.e. the same direction of the layer 14, only by theta. Thereby, the layer 14 is moved in parallel with its thickness direction due to the movement of the member 13 and the layer 14 and an intersecting point between the center lines of both the waveguides 9, 10 coincides with the layer 14. Consequently, the optical brancher/coupler capable of executing optical branching and coupling of low loss can be obtained.

Japanese Publication No. 09-073019: PROBLEM TO BE SOLVED: To provide an optical multiplexer/demultiplexer of planer structure surely enabling wavelength separation. SOLUTION: An input port IN is provided at one end of a substrate 1 and a first output port OUT 1 at the other end of the substrate, and a second output port OUT 2 is provided at the end of the same side as the input port IN of the substrate 1, and on the substrate 1, an incident light waveguide path 2 on which light of multiple wavelengths is made incident from the input port 1 and a first outgoing light waveguide path 3 to take a certain wave component out of the waveguide light to the first output port OUT 1 on the prolongation of the incident light waveguide path 2 are formed, and between an incident light waveguide path 2 and a first outgoing light waveguide path 3, an interference filter 5 is buried which reflects and transmits the waveguide light of the incident light waveguide path 2 according to its wavelength to a groove formed with a specific angle tilted from a direction vertical to their optical axis, and between the second output port OUT 2 and the interference filter 5, a second outgoing light waveguide path 4 to take out the reflected light component at the interference filter 5 is formed.

Japanese Publication No. 01-118806: PURPOSE: To improve the coupling efficiency by forming V grooves in the surface of a 1st surface of a transparent body closely to waveguides, reflecting light propagated in the waveguides toward the 2nd surface, and converging the reflected propagated light through a lens and arranging a packaged light receiving and emitting element at the convergence position. CONSTITUTION: There are the waveguides 2, 2a, and 2b near the 1st surface 11 of a substrate and light is propagated. When the light is sent to the waveguide 2 from the left side, it is reflected by an interference filter 6 to enter the waveguide 2a and reaches the V groove 31 and the light is reflected there, converged by the lens 41, and photodetected by the light receiving element 7. Light emitted by the light emitting element 8, on the other hand, is converged into converged light by an internal spherical lens and a lens 42 and the converged light is reflected by a V groove 32 to enter the waveguide 2b, and the light is transmitted through the interference filter 6 and enters the waveguide 2, wherein the light is transmitted to the left. Consequently, the coupling efficiency is improved.

Japanese Publication No. 08-254629: PURPOSE: To make the number of parts smaller, a size smaller, productivity higher and a manufacturing cost lower by composing the above module of a substrate type waveguide formed with cores and clad and providing the module with a specific optical filter. CONSTITUTION: The down television signal and down digital signal inputted from an optical fiber pass the main core 23a from a first port P1 . The light is reflected at the optical filter 25 which is a filer made of multilayered thin films of dielectrics. The reflected light is introduced to the sub-core 23b and is outputted from a second port P2 to the output fiber. The down digital signal passes the filter 25, arrives at a third port P3 and is inputted to a light receiving device in common use as a light emitting device where the light is received and is made into an electric signal. On the other hand, an up digital signal is inputted to the light receiving device in common use as the light emitting device which functions as a light receiving device when changed over, where the signal is made into the up digital light signal. This signal enters the main core 23a from the port P3 , passes the optical filter 25 and is delivered from the port P1 to the optical fiber. The transmission of the digital light signal in this case is a ping pong transmission system.

NON-PRIOR ART DOCUMENTS

Attached for the examiner's information is a copy of an Office Action dated November 7, 2006 for Japanese Application No. 2005-513913 which relates to the present application.

Dated this 29th day of January 2007.

Respectfully submitted,

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